

Claims

1. In a Process for the removal and recovery of absorbed acid gas from an aqueous treatment Fluid, which Fluid comprises at least one chemically absorbed acid gas and at least one acid gas-absorbing chemical Agent, and the reclamation of at least one such Agent from the treatment Fluid, and in which Process the reclamation is conducted in an endothermal Separation Step wherein the Fluid is separated into a) at least one liquid-phase Stream A rich in the absorbing Agent and b) at least one gaseous-phase Stream B rich in the acid gas, and Stream B is thereafter recovered and subjected to compression in a compression Device;
- the improvement comprising: 1) conducting the Separation Step in a pressure Vessel under a pressure that exceeds 50 psia and does not exceed about 300 psia, while supplying to the Fluid sufficient heat to separate gaseous-phase Stream B from liquid-phase Stream A, and 2) subsequently introducing Stream B under said pressure to the intake of the compression Device.
2. The process of Claim 1 where in the Separation Step pressure exceeds 55 psia.
3. The process of Claim 1 where in the Separation Step pressure exceeds 130 psia.
4. The process of Claim 1 where, after conducting the Separation Step but before introducing Stream B to the intake of the compression Device, Stream B is treated by passing it to a condenser, cooling it to a temperature that allows the acid gases to pass the condenser but is sufficiently low to remove one or more other condensable gas from Stream B.
5. The process of Claim 1 where at least one acid gas-absorbing chemical Agent in the treatment Fluid is an alkanolamine, comprising from 2 to 6 carbon atoms.
6. The process of Claim 1 where at least one acid gas-absorbing chemical Agent is selected from the group consisting of ethanolamine; diethanolamine; diisopropanolamine; triethanolamine; N-methyldiethanolamine; piperazine;

N-methylpiperazine; N-hydroxyethylpiperazine; 2-(2-aminoethoxy)ethanol; 2-(2-tert.-butylaminoethoxy)ethanol; and 2-amino-2-methyl-1-propanol

7. The process of Claim 5 or 6 where, included in the treatment Fluid, is at least one co-solvent for acid gases selected from the group of:
 - 5 a) methanol; and
 - b) C₁-C₃ alkyl mono- and di- ethers of ethylene, diethylene, triethylene, tetraethylene, pentaethylene, hexaethylene, heptaethylene, octaethylene, nonaethylene, and undecaethylene glycol; and
 - 10 c) propylene carbonate; 1,3-dimethyl-3,4,5,6-tetrahydro-2(1H)-pyrimidinone; sulfolane; 1-methyl-2-pyrrolidinone; morpholine; N-formylmorpholine; and N- acetylmorpholine.
8. A regeneration Process for an aqueous, acid gas-absorption Fluid comprising at least one nitrogen-based chemical absorbing Agent for an acid gas, which absorption Fluid contains chemically absorbed acid comprising a) hydrogen
15 sulfide, b) carbon dioxide or c) both of said gases, said Process comprising 1) stripping acid gas from the acid gas-rich absorption Fluid in a pressure Vessel at a pressure in excess of about 50 psia and below about 300 psia, and thereafter 2) recovering an acid gas-rich gas stream from the Vessel while maintaining the stream under said pressure, and 3) introducing said gas stream into a
20 compressor, and 4) thereafter reducing by compression the volume of said gas stream.
9. The process of Claim 8, where the gas stream is, after compression, disposed by injection to an ocean- or sea-bed or into a subterranean chamber or formation.
10. The process of Claim 1 or 8 where heat is supplied to Fluid in the Vessel in a
25 sufficient quantity that said Separation Step is conducted at a temperature in excess of 280 deg. F and below 400 deg. F.